

## Message Text

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FM SECSTATE WASHDC  
TO USMISSION USNATO IMMEDIATE

C O N F I D E N T I A L STATE 094548

E.O. 11652: GDS

TAGS: NATO, ETEL

SUBJECT: NATO IV COMMUNICATIONS SATELLITE

REF: NAC/465, DTG 031055Z APR 78

1. STATEMENT THAT US REP INTENDS TO MAKE AT FORTHCOMING  
NJCEC SUPPORTS OPTION I (DSCS-III) FOR NATO IV SPACE SEGMENT.  
SUBSTANCE OF STATEMENT IS REPEATED BELOW. PLEASE DISTRI-  
BUTE AS APPROPRIATE.

2. BEGIN STATEMENT:

WE HAVE CONSISTENTLY ARGUED THAT IT WOULD BE ADVANTAGEOUS FOR  
NATO TO ADOPT A DSCS III SPACE SEGMENT FOR NATO IV. WE  
HAD HOPED THAT WE COULD HAVE ACHIEVED AN AGREEMENT IN PRIN-  
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CIPLE--EARLY TO PERMIT A MODIFIED DESIGN. DESPITE THE  
LATENESS, WE STILL BELIEVE THE ADVANTAGES ARE REAL. OUR  
PRINCIPAL OBJECTIVE IS TO ACHIEVE INTEROPERABILITY. IN THE  
EVENT THAT FAILURES OCCUR ON LAUNCH OR IN ORBIT, BECAUSE  
THE US AND NATO SPACE SEGMENTS ARE INTEROPERABLE, WE CAN  
CONTINUE TO MEET VITAL DEFENSE COMMUNICATIONS REQUIREMENTS  
THROUGH THE USE OF THE NATO AND US SPACE SEGMENTS. TO

ACHIEVE FLEXIBILITY AND SURVIVABILITY OF SATELLITE COMMUNICATIONS, WE BELIEVE THAT IT IS ESSENTIAL TO HAVE CONTINUED FULL INTEROPERABILITY OF SATCOM SYSTEMS.

THERE IS AN IMPRESSION THAT DSCS III CANNOT MEET SOME OF THE MOBILE NATIONAL REQUIREMENTS. WE WISH TO POINT OUT THAT ACTUAL PERFORMANCE OF THE TRANSMIT MULTIPLE BEAM ANTENNA, AS MEASURED BY THE CONTRACTOR, IS SOME 5 TO 7 DB HIGHER THAN THE VALUES USED BY THE STC IN THEIR LOADING OF THE NATO AND NATIONAL REQUIREMENTS. THIS MEANS, FOR EXAMPLE, THAT THE UK COULD INCREASE THEIR NATIONAL REQUIREMENTS IN THE DSCS III EXCLUSIVE BAND CHANNEL FROM 250 WATTS TO THE 500 WATTS THEY HAVE INDICATED THAT THEY NEED AND CONSIDERABLE SPARE CAPACITY WOULD STILL EXIST.

NEXT WE WOULD LIKE TO REVIEW COMPARATIVE COSTS. THE COST ESTIMATE FOR DSCS III DOES NOT TAKE INTO CONSIDERATION THE SAVINGS THAT WOULD ACCRUE THROUGH USE OF US AND NATO COMMON SPARES. THE CONCEPT OF COMMON SPARING IS ONE OF THE ADVANTAGES OF A COMMON TYPE SPACECRAFT. ADDITIONAL COST REDUCTION IS AVAILABLE TO NATO AND THE US WHEN THIS APPROACH IS ADOPTED. FURTHERMORE, BECAUSE OF THIS AND OTHER ADVANTAGES, WE HAVE AGREED THAT NATO WILL PAY THE SUBSTANTIALLY LOWER DOD COSTS FOR LAUNCH AND LAUNCH SERVICES AND NO COSTS FOR OUR RESEARCH, DEVELOPMENT, TEST AND EVALUATION. A WORD ABOUT RISKS. THE DSCS III PROGRAM WAS PLANNED AS A LOW RISK PROGRAM FROM THE BE-

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GINNING, WITH THE POSSIBLE EXCEPTION OF THE MULTIPLE BEAM ANTENNA (MBA). THE MBA HAD ALREADY UNDERGONE DEVELOPMENT AND TESTING BY LINCOLN LABORATORY. DURING INITIAL COMPETITION FOR THE DSCS III SPACECRAFT DEVELOPMENT, BOTH HUGHES AND GENERAL ELECTRIC BUILT MBAS AND TESTED THEM FOR A YEAR. SUBSEQUENTLY, GENERAL ELECTRIC COMPLETED NEARLY TWO MORE YEARS OF TESTING OF THE ANTENNA DESIGNS TO BEFLOWNNEXT YEAR ON THE FIRST DEVELOPMENTAL DSCS III SATELLITE. MAJOR COMPONENTS OF THE ANTENNA AND BEAM FORMING NETWORK ARE FULLY REDUNDANT AND HAVE A FAILSAFE MODE THAT WOULD, IN THE WORST CASE, LOWER ANTENNA GAIN BY THREE DECIBELS. A SIMILAR ABILITY TO ASSESS RISK DOES NOT EXIST FOR A NATO IV TAILORED OPTION SINCE THAT SPACECRAFT IS STILL A PAPER DESIGN. TO REDUCE THE DEGREE OF RISK, SOME SIGNIFICANT AND COSTLY RESEARCH, DEVELOPMENT, TEST AND EVALUATION WILL BE REQUIRED.

COMMON NATO IV - DSCS III SATELLITES WILL ALLOW COMMON CONTROL PROCEDURES. SUCH COMMON CONTROL PROTOCOLS ARE SPECIALLY SIGNIFICANT UNDER STRESSED CONDITIONS. FURTHER, THE DSCS III HAS A GROUND COMMANDABLE ANTENNA SYSTEM WHICH CAN RESPOND FLEXIBLY TO CHANGING THREAT (A/I) SITUATIONS.

WE ARE FULLY AWARE OF A DESIRE ON THE PART OF SOME SCWG MEMBERS TO PROVIDE AN ON-BOARD PROCESSOR ON NATO IV. IN THIS CONNECTION, THE SINGLE CHANNEL TRANSPONDER TO BE

INSTALLED ON THE DSCS III HAS A LOW DATA RATE ON-BOARD, HIGHLY PROTECTED PROCESSING CAPABILITY WHICH INCORPORATES SHF UP LINKS AND COULD INCORPORATE SHF DOWN LINKS.

WE WISH TO MAKE A FINAL POINT. WE KNOW THAT SEVERAL NATO NATIONS HAVE AN INDUSTRIAL CAPABILITY FOR BUILDING SUBSYSTEMS FOR SPACECRAFT. OVER THE PAST SEVERAL MONTHS, THE DSCS III CONTRACTOR HAS INVESTIGATED THE POSSIBILITIES FOR SHARING PRODUCTION. WE PROPOSE THE POSSIBILITY THAT

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PARTIAL OVERSEAS PROCUREMENT (PRODUCTION SHARING) BE PURSUED FOR THE NATO SATELLITES. UNDER THESE CIRCUMSTANCES, NATO WOULD, OF COURSE ASSUME THE POSSIBLE COST DIFFERENTIALS BETWEEN US DOMESTIC AND OVERSEAS PRODUCTION OF PARTS OF THE NATO SATELLITES.

IN SUMMARY, THE PURPOSE OF NATO ICB IS TO PROCURE EQUIPMENT THAT MEETS THE NATO REQUIREMENTS AT THE LOWEST COST. THE US IS CONVINCED THAT DSCS III MEETS NATO REQUIREMENTS AT THE LOWEST COST. BUT, THE MOST IMPORTANT REASON FOR COMMON NATO-US SATELLITES IS THE COMPLETE SYSTEMS INTEROPERABILITY THAT WILL BE POSSIBLE.

FOR THE REASONS OUTLINED, THE UNITED STATES URGES THE NJCEC TO AGREE IN PRINCIPLE THAT THE NATO IV SPACE SEGMENT BE COMMON WITH THE US DSCS III SPACE SEGMENT.

END STATEMENT.

CHRISTOPHER

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